

FIG. 1A

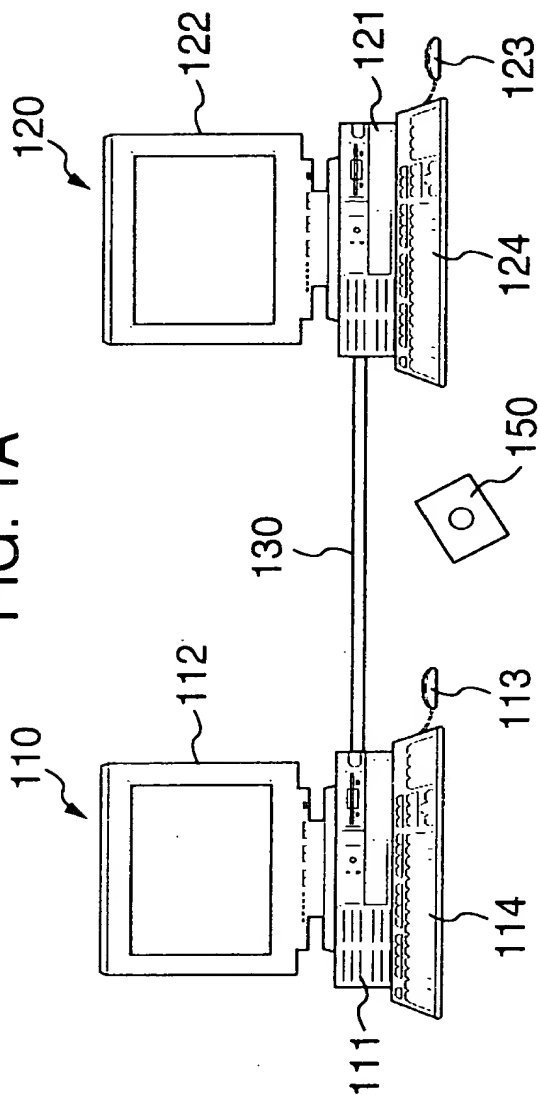


FIG. 1B

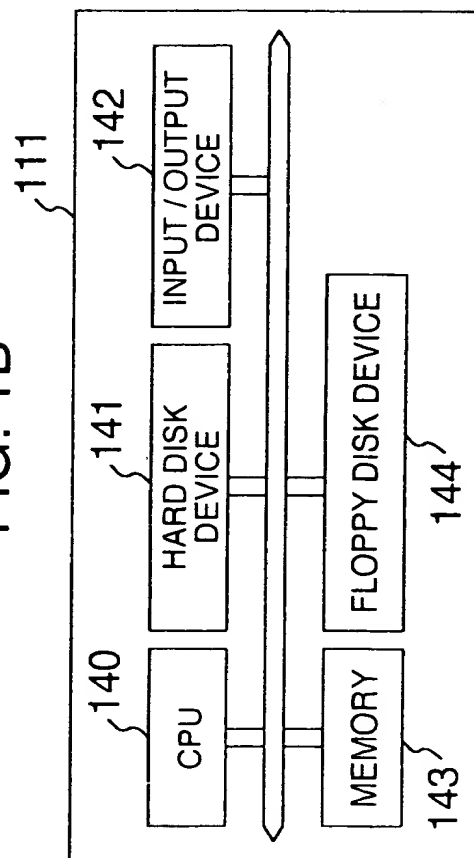


FIG. 1C

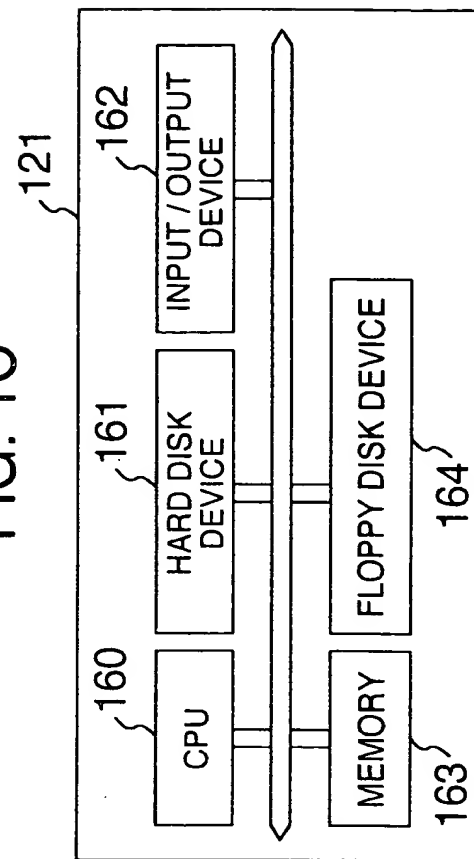


FIG. 2

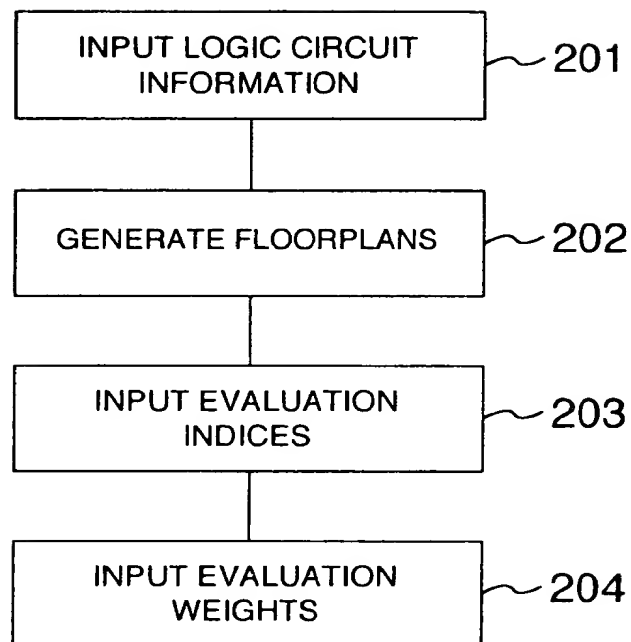
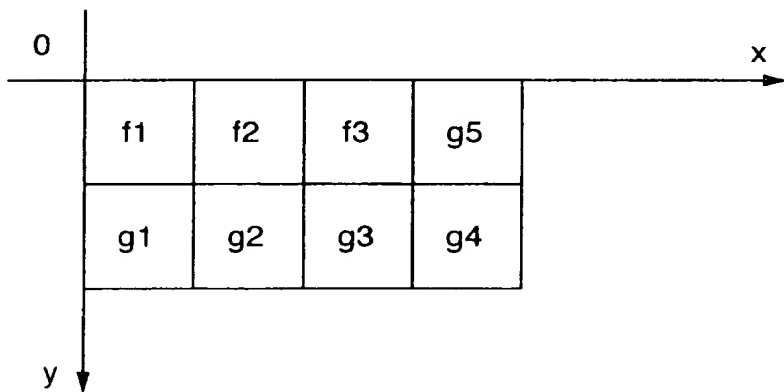
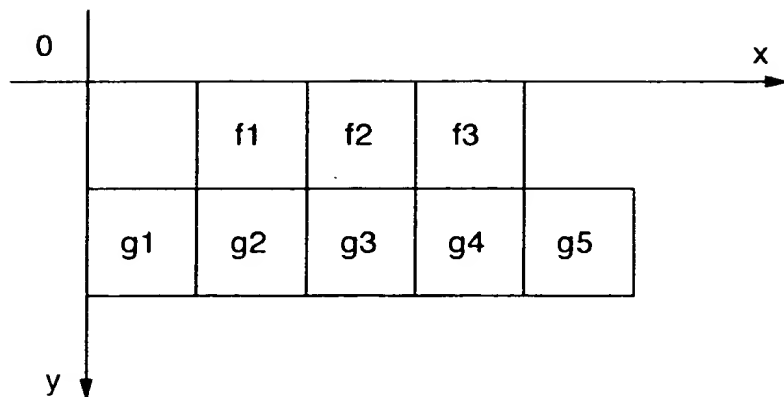


FIG. 4

(a)

(b)

datapath	f1	f2	f3	100
group	f1	g1		1
group	g2	g3		1
i / f	RAM	g3		
remove	f2	f3	left	1



```

pri : speed
f1 : (13, 0) 13 14
f2 : (26, 0) 13 14
f3 : (39, 0) 13 14
g1 : ( 0, 14) 13 14
g2 : (13, 14) 13 14
g3 : (26, 14) 13 14
g4 : (39, 14) 13 14
g5 : (52, 14) 13 14

```

402

```
pri : space
f1 : ( 0, 0) 13 14
f2 : (13, 0) 13 14
f3 : (26, 0) 20 14
g1 : ( 0,14) 13 14
g2 : (13,14) 13 14
g3 : (26,14) 20 14
g4 : (39,14) 20 14
g5 : (39,14) 20 14
```

FIG. 5

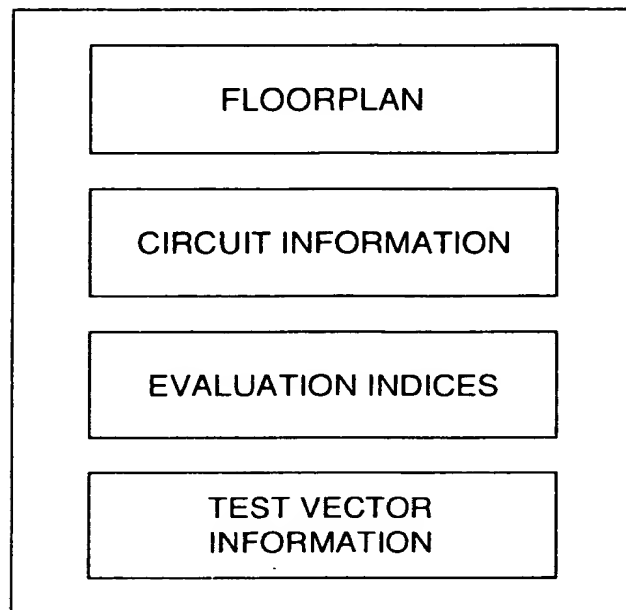


FIG. 6

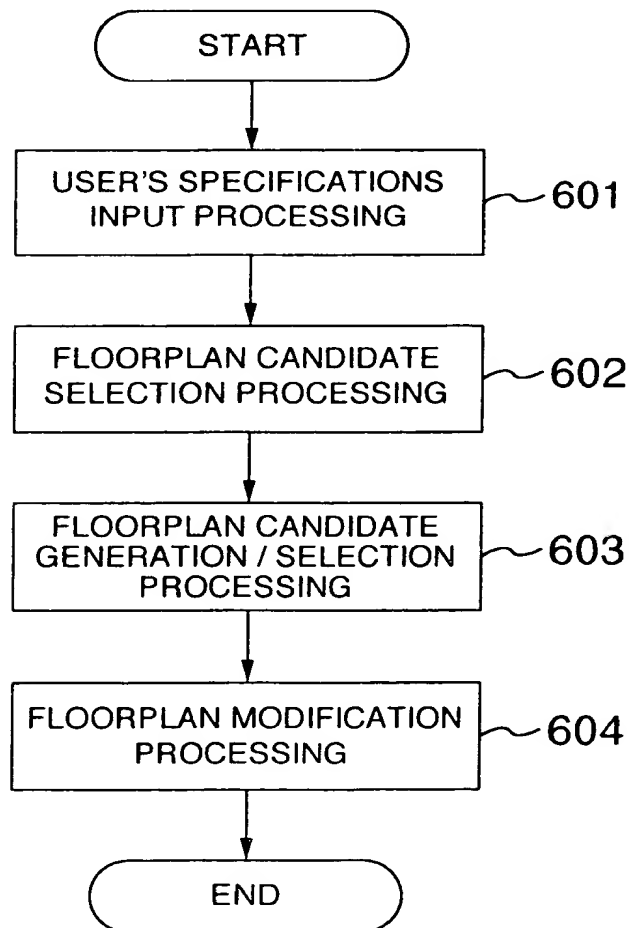


FIG. 7

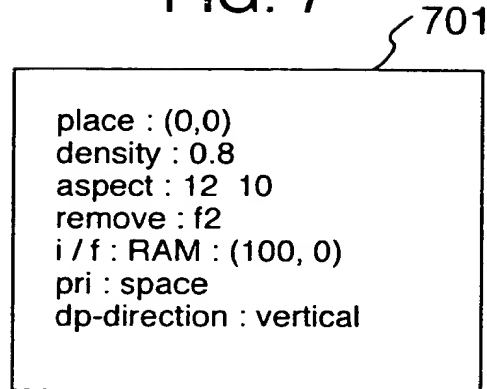


FIG. 8

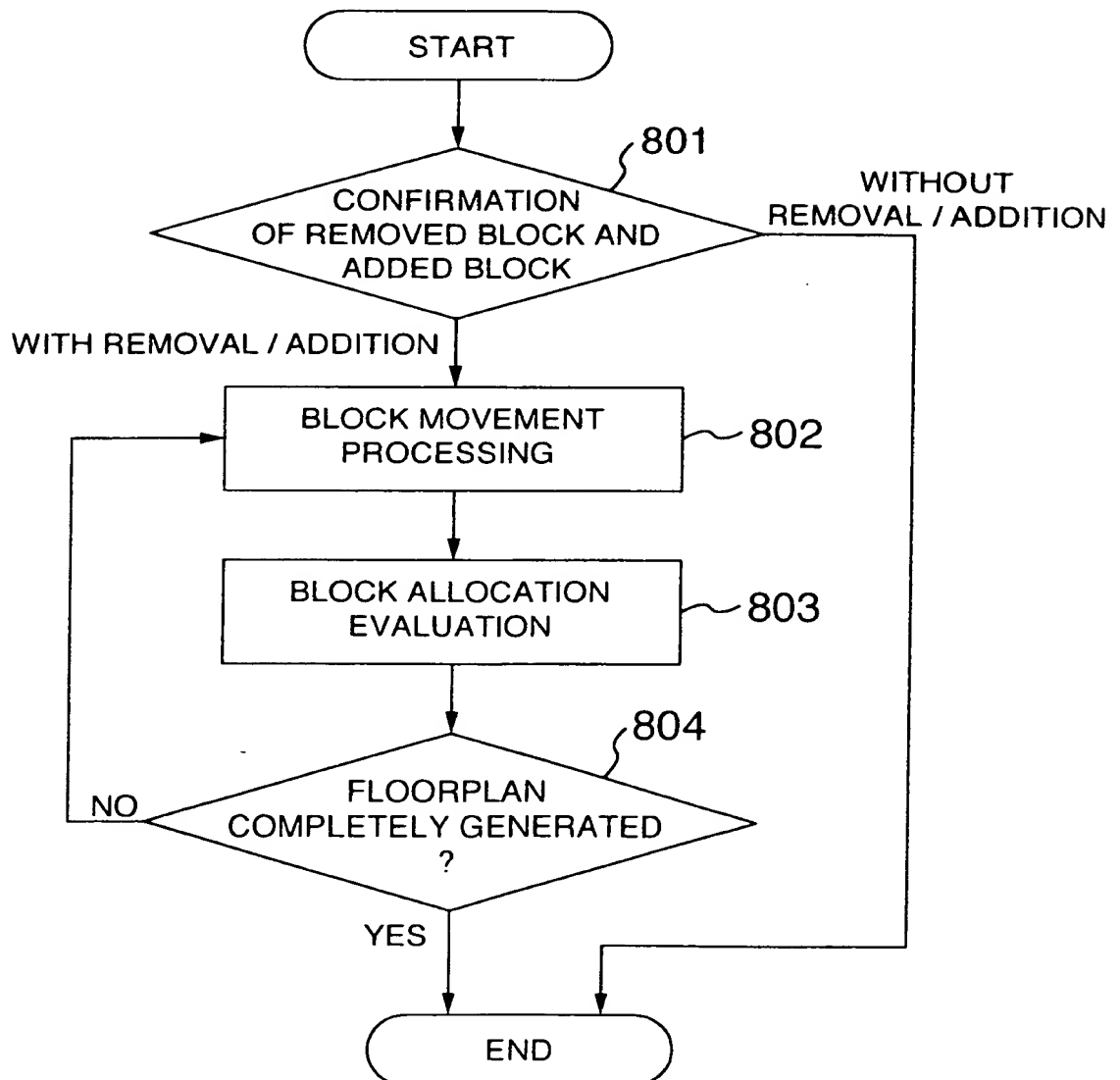


FIG. 9B

place : (0, 0)
density : 0.8
aspect : 12 10
remove : f2
i / f RAM : (100, 0)
pri : space
dp-direction : vertical

FIG. 9A

datapath	f1	f2	f3	100
group	f1	g1		1
group		g2	g3	1
i / f : RAM		g3		
remove		f2 : f3	left	1

FIG. 9C

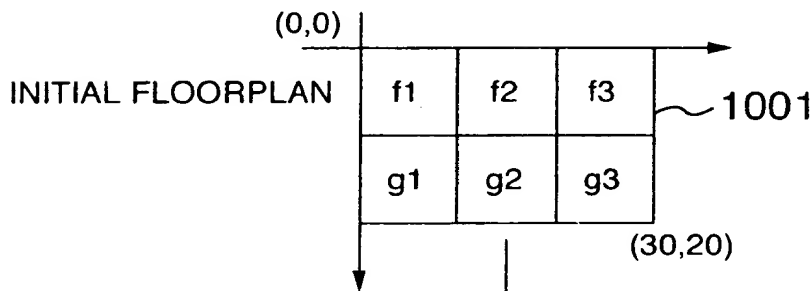


FIG. 9D

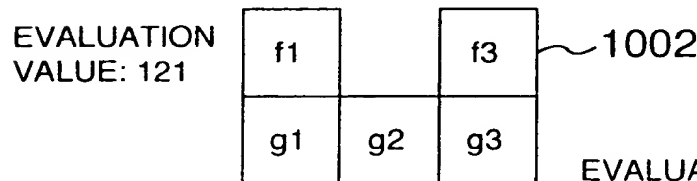
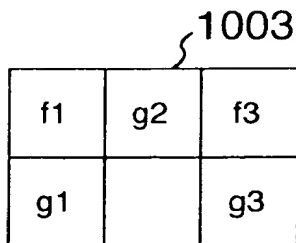
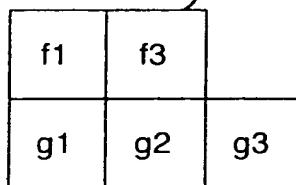


FIG. 9E



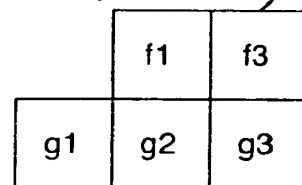
EVALUATION VALUE: 125

FIG. 9F



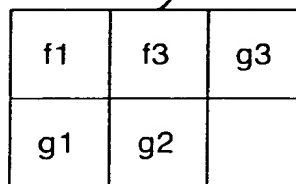
EVALUATION VALUE: 20

FIG. 9G



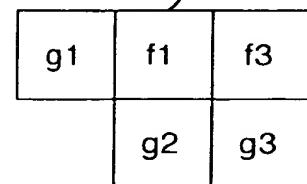
EVALUATION VALUE: 25

FIG. 9H



EVALUATION VALUE: 24

FIG. 9I



EVALUATION VALUE: 25

FIG. 10A

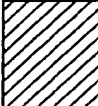
f4	f1	f2	f3
	g1	g2	g3

FIG. 10B

f4		f2	f3
f1	g1	g2	g3

FIG. 10E

f4	f1	f2	f3
g1		g2	g3

FIG. 10C

f4	f1		f3
f2	g1	g2	g3

FIG. 10F

f4	f1	f2	f3
g2	g1		g3

FIG. 10D

f4	f1	f2	
f3	g1	g2	g3

FIG. 10G

f4	f1	f2	f3
g3	g1	g2	

FIG. 11

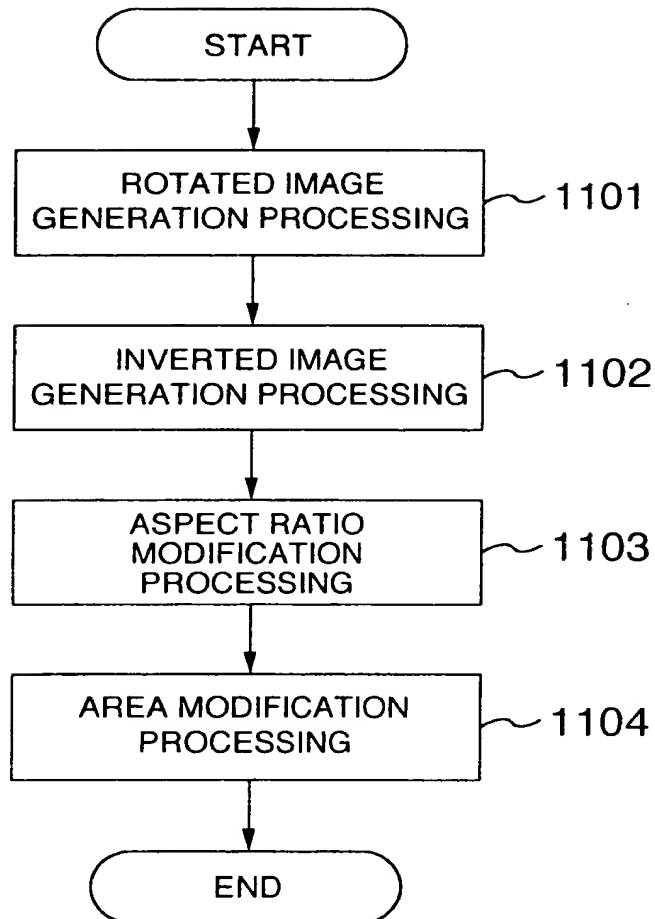




FIG. 12A

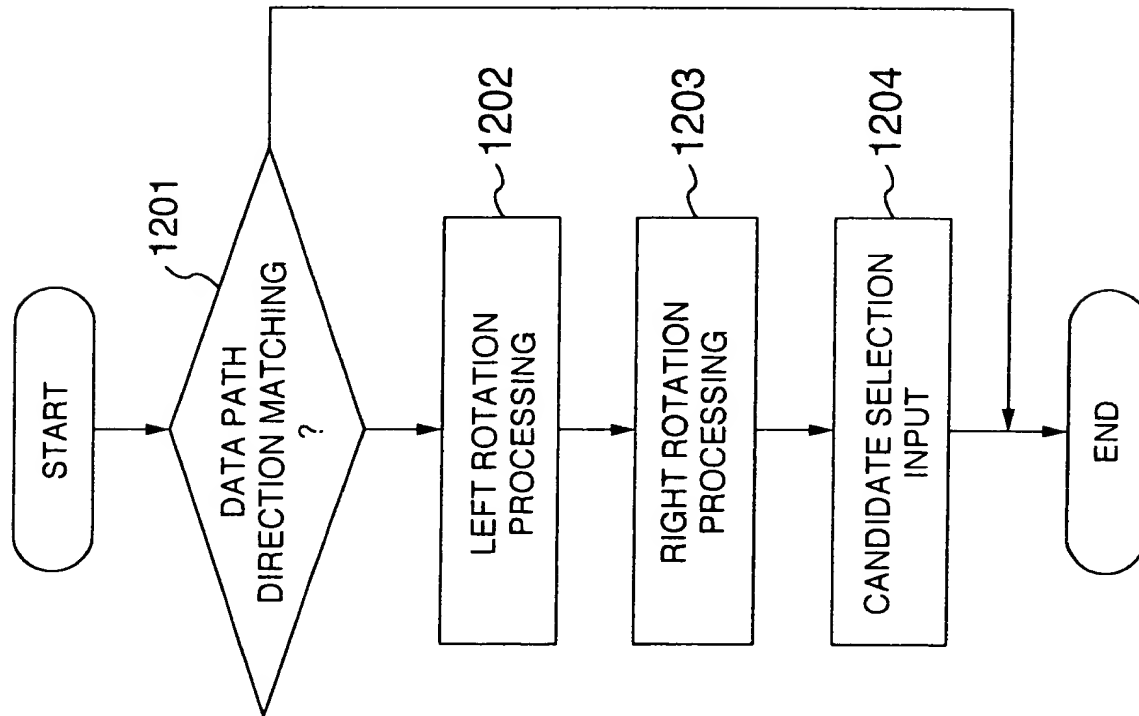


FIG. 12B

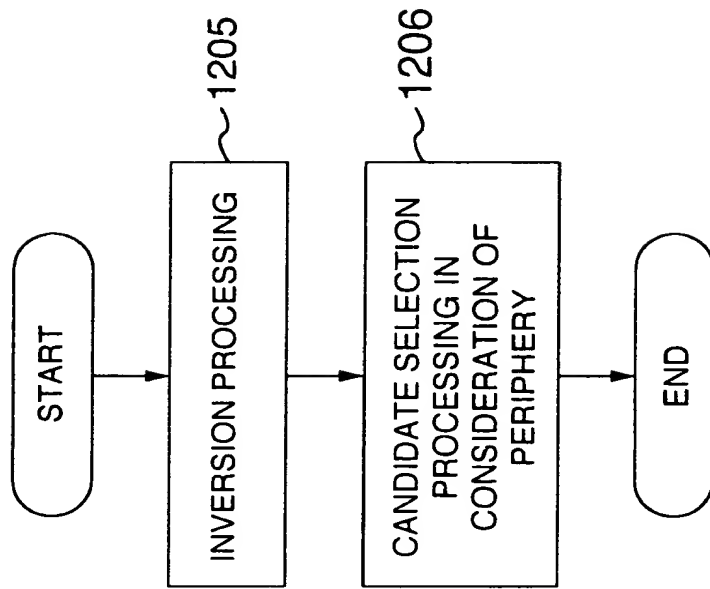


FIG. 13A

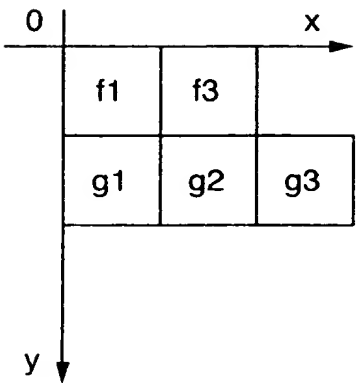


FIG. 13B

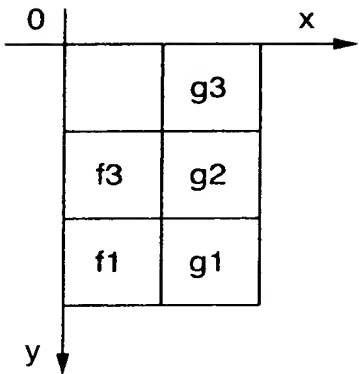


FIG. 13C

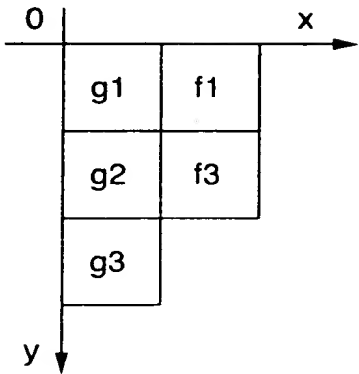


FIG. 13D

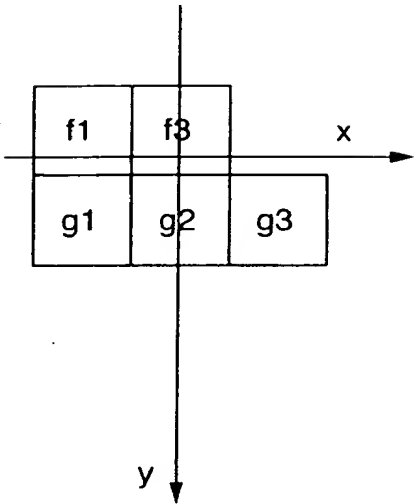


FIG. 13E

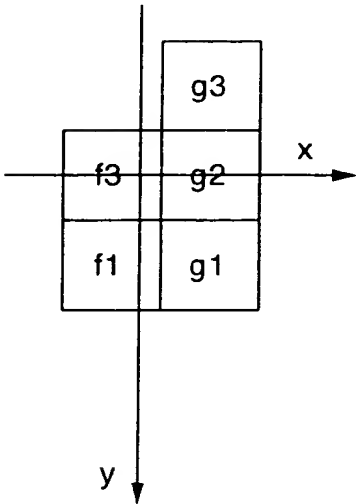


FIG. 14A

f1 : ( 0, 0) 13 14  
f3 : (26, 0) 13 14  
g1 : ( 0,14) 13 14  
g2 : (13,14) 13 14  
g3 : (26,14) 13 14

FIG. 14B

f1 : ( 0,26) 14 13  
f3 : ( 0,13) 14 13  
g1 : (14, 0) 14 13  
g2 : (14,13) 14 13  
g3 : (14,26) 14 13

FIG. 14C

f1 : (14, 0) 14 13  
f3 : (14,13) 14 13  
g1 : ( 0, 0) 14 14  
g2 : ( 0,13) 14 13  
g3 : ( 0,26) 14 13

FIG. 16A

f1 : (14, 0) 14 13  
f3 : (14,13) 14 13  
g1 : ( 0, 0) 14 13  
g2 : ( 0,13) 14 13  
g3 : ( 0,26) 14 13

FIG. 16B

f1 : ( 0, 0) 14 13  
f3 : ( 0,13) 14 13  
g1 : (14, 0) 13 14  
g2 : (14,13) 13 14  
g3 : (14,26) 13 14

FIG. 16C

f1 : (13,14) 14 13  
f3 : (13,28) 14 13  
g1 : ( 0,28) 13 14  
g2 : ( 0,14) 13 14  
g3 : ( 0, 0) 13 14

FIG. 16D

f1 : ( 0,26) 14 13  
f3 : ( 0,13) 14 13  
g1 : (14,26) 13 14  
g2 : (14,13) 13 14  
g3 : (14, 0) 13 14

FIG. 15A

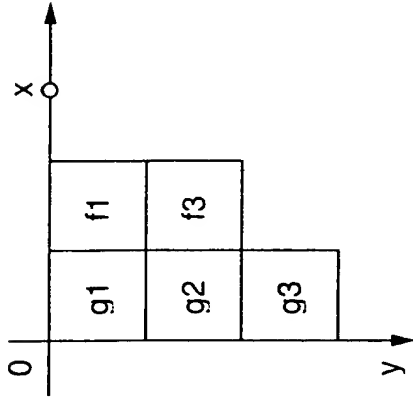


FIG. 15B

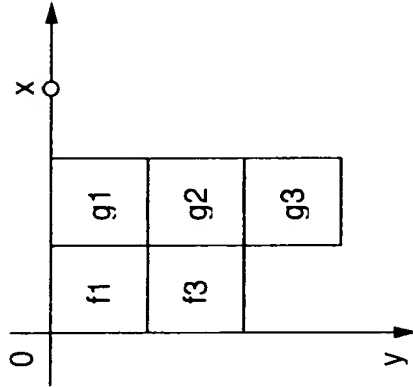


FIG. 15C

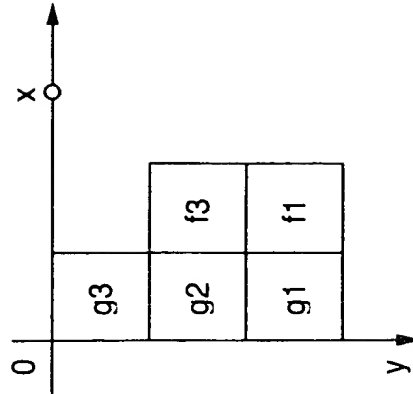


FIG. 15D

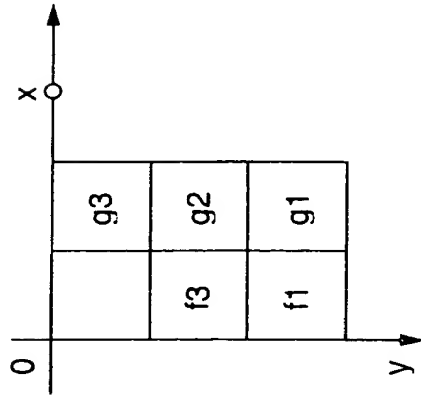


FIG. 15E

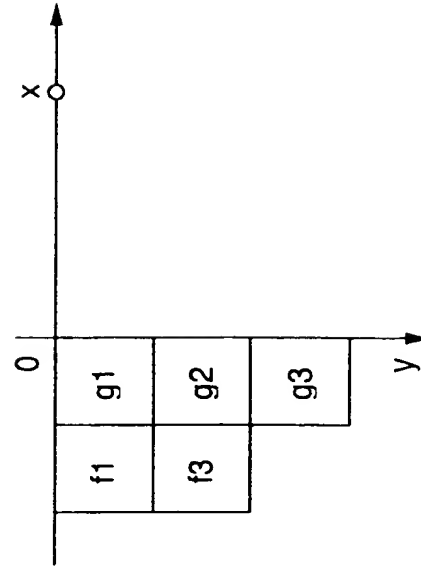


FIG. 17A

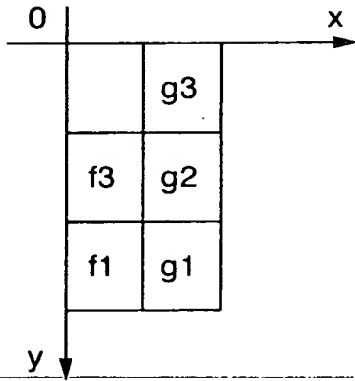


FIG. 17B

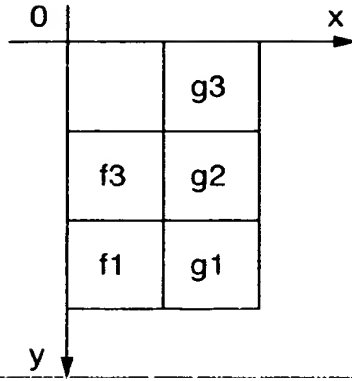


FIG. 17C

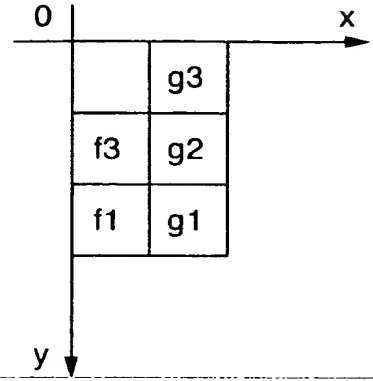


FIG. 18A

f1 :	( 0,26)	14	13
f3 :	( 0,13)	14	13
g1 :	(14,26)	13	14
g2 :	(14,13)	13	14
g3 :	(14, 0)	13	14

FIG. 18B

f1 :	( 0,24)	15	12
f3 :	( 0,12)	15	12
g1 :	(15,24)	12	15
g2 :	(15,12)	12	15
g3 :	(15, 0)	12	12

FIG. 18C

f1 :	( 0,20)	12	10
f3 :	( 0,10)	12	10
g1 :	(12,20)	10	12
g2 :	(12,10)	10	12
g3 :	(12, 0)	10	12

FIG. 19A

CLASSIFICATION	SPECIFICATION	EXPLANATION
BLOCK MOVEMENT RULE	remove	MOVEMENT SPECIFICATION OF ANOTHER BLOCK WHEN CERTAIN BLOCK IS REMOVED EXAMPLE : remove: f2→f3: left
	add	MOVEMENT SPECIFICATION OF ANOTHER BLOCK WHEN CERTAIN BLOCK IS ADDED EXAMPLE : add: f2→f3: right
BLOCK ALLOCATION RULE	group	SPECIFICATION OF GROUP OF BLOCKS TO BE ALLOCATED IN THE NEIGHBORHOOD EXAMPLE : group : g1, g2
	datapath	SPECIFICATION OF GROUP OF BLOCKS AS DATA PATH EXAMPLE : datapath: g2, g3, g4, g5
PERIPHERAL CIRCUIT i/f INFORMATION	i / f	SPECIFICATION OF BLOCK TO BE ALLOCATED IN THE VICINITY OF EXTERNAL CIRCUIT abc EXAMPLE : i / f : RAM: g5

FIG. 19B

CLASSIFICATION	SPECIFICATION	EXPLANATION
USER'S SPECIFICATIONS INPUT	place	SPECIFICATION OF ALLOCATION PLACE IN OVERALL FLOORPLAN EXAMPLE : place : (0, 0)
	density	SPECIFICATION OF AREAL RATIO EXAMPLE : density : 0.5
	aspect	SPECIFICATION OF RATIO BETWEEN VERTICAL AND HORIZONTAL LENGTHS EXAMPLE : aspect 1.2 1.0
	remove	SPECIFICATION OF BLOCK TO BE REMOVED EXAMPLE : remove : f1
	add	SPECIFICATION OF BLOCK TO BE ADDED EXAMPLE : add : g2
	pri	SPECIFICATION OF AREA PRIORITY OR SPEED PRIORITY EXAMPLE : pri : space or pri : speed
	i / f	SPECIFICATION OF i / f FOR PERIPHERAL CIRCUIT EXAMPLE : i / f : RAM : (100, 0)
	dp-direction	SPECIFICATION OF DIRECTION OF DATA PATH EXAMPLE : dp-direction : vertical or dp-direction: horizontal

FIG. 20

2001

2002	2003	2004	2005	2006
2007	2008	2009	2010	2011

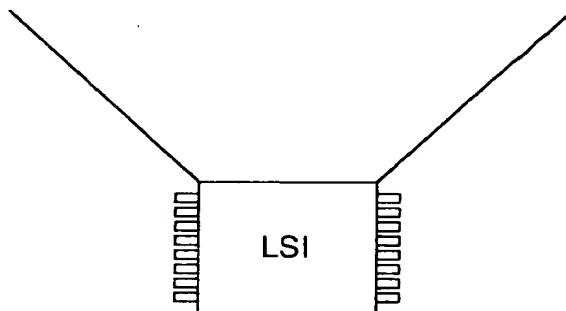


FIG. 21

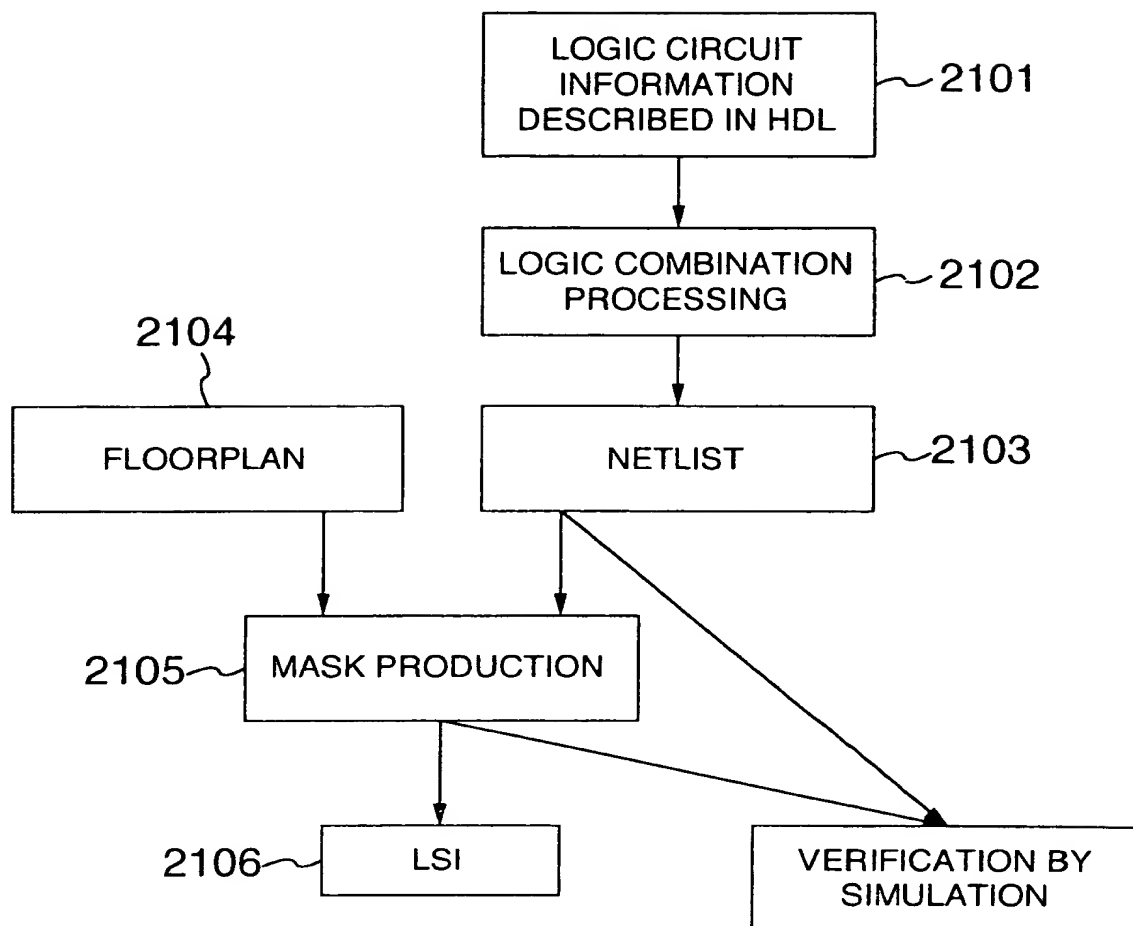


FIG. 22

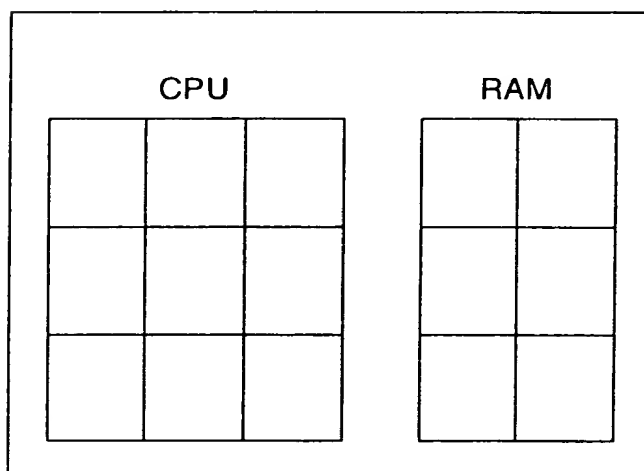




FIG. 23

